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10/720,186	11/25/2003	Joseph Dela Rutledge	YOR920030255US1	4211

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EXAMINER	
SHERMAN, STEPHEN G	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,186	RUTLEDGE ET AL.	
	Examiner	Art Unit	
	Stephen G. Sherman	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed the 15 August 2007. Claims 1-23 are pending.

Response to Arguments

2. Applicant's arguments filed 15 August 2007 have been fully considered but they are not persuasive.

The applicant begins their arguments on page 7 of the response. The applicant argues the rejection by stating that Engle discloses a miniature mouse joystick apparatus which includes an integrated switch means coupled to an actuator assembly for detecting presence of a user's fingertip contacting the actuator assembly. The examiner agrees with this characterization made by the applicant, however, the applicant then states that Engle does not teach "a calibrating module for calibrating an input parameter signal by detecting a hands-off period using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period" as recited in claim 1 and similarly recited in claims 10, 18 and 20. The examiner respectfully disagrees.

The applicant states on page 8, lines 8-16 that the Examiner's allegation does not even address the claimed invention, and that nowhere does Engle teach or suggest a test for detecting a hands-off period, let alone the first and second tests of the claimed

invention, and that the Examiner's comments are unrelated to a test for detecting a hands-off period. The applicant is giving to much weight to the CLAIM limitations as related to their ACTUAL INVENTION. While the examiner agrees that Engle does not teach the applicant's INVENTION, Engle teaches the CLAIMED INVENTION. The claim merely requires two periods of time, one where the cursor is in motion and one where the cursor is not in motion, then the claim requires that a signal is calibrated by detecting a hands-off period using a first and second hands-off tests during each of the first and second periods. As described in the rejection below, Engle discloses of a period when the cursor is in motion and a period of time when the cursor is not in motion in column 4, lines 11-22, column 7, lines 3-18, lines 29-43 and column 8, lines 35-46, which explain that the capacitive sensor arrangement allows for the determination of different periods of time in which a user is controlling the cursor and when a user is not controlling the cursor, and this means that the circuit is able to identify a period when the cursor is in motion and when the cursor is not in motion. Thus when the cursor is in motion, i.e. when a user is touching the joystick, the user's hand is touching the joystick, and thus hands-off is not detected and the signal is calibrated differently then when the user is not touching the joystick, i.e. hands-off is detected, and the cursor is not in motion. Once again the examiner will point out that he understands that Engle has nothing to do with the applicant's ACTUAL INVENTION, however, the claims have been written broadly and thus Engle can anticipate the CLAIMED INVENTION.

By amending the claims to state "by detecting a hands-off period using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period" the applicant thinks that Engel cannot anticipate the claims because the applicant believes that "first hands-off test" and "second hands-off" test must take place when a user is not touching the joystick because the word "hands-off" has been used. The applicant even states in the last paragraph of page 8 of the response that the Examiner's assumption that "hands-off" is equivalent to "cursor in motion" is patently incorrect This is clearly not the case by the applicant's disclosed invention. As pointed out by the applicant, their invention is to compensate for cursor drift, and thus when a cursor is not supposed to move on the display it won't. Thus the only way a cursor will move on the display is by a user touching the joystick to create the movement. Thus when the claim states "a first period when a cursor is in motion", the user must be causing the movement of the cursor by touching the joystick or else the cursor would not move on the display since cursor drift is eliminated. Thus using Engle to teach of this first period when the cursor IS IN MOTION is very reasonable since in the applicant's invention the cursor will only move when the joystick is moved by a user. Further, since the cursor movement must be made by a user touching the joystick in the first period, the "first hands-off test" used during the first period would allow for a user's hand to actually be touching the joystick. Thus the limitation "hands-off" does not limit the CLAIMED invention to the user's hand having to be off the joystick, but rather the user's hands would have to be on the joystick for the cursor to be in motion. Therefore, what is being claimed is detecting a hands-off

period using a test when a hand is on the device and when a hand is not on the device in order to calibrate the signal differently when a user is touching the joystick versus when a user is not touching the joystick. Despite the applicant's assertion, the CLAIMED INVENTION does not reflect their ACTUAL INVENTION and thus Engle is relevant to the **claimed invention**.

Therefore, the CLAIMED INVENTION is much different then the applicant's ACTUAL INVENTION. If the applicant wishes to overcome the rejection, then applicant should claim their actual invention.

One page 9 of the response the applicant argues the rejection of claims 8-9 and 22. The applicant alleges on page 10, lines 3-12 that Engle and AAPA would not have been combined as done by the Examiner and that the references do not include any motivation or suggestion to urge the combination as alleged by the Examiner. It is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements that applicant has made. The test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art. In re Sheckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 725 (CCPA 1968).

Further, the examiner only used AAPA to show that signal calibration can be done with different testing times, and that this would be applied to Engle in order to allow for power savings to be realized, since when the joystick is not being touched the cursor is not to be used and therefore the input signal would not need to be updated as

often. This is more than reasonable motivation if common sense is used, because signal calibration would not need to take place as often when a cursor is not being moved as opposed to when a cursor is being used.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 10-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Engle et al. (US 5,541,622).

Regarding claim 1, Engle et al. disclose a controller for controlling a cursor, comprising:

an identifying module for identifying at least one of a first period when a cursor is in motion and a second period when said cursor is not in motion (Column 4, lines 11-22, column 7, lines 3-18, lines 29-43 and column 8, lines 35-46 explain that the capacitive sensor arrangement allows for the determination of different periods of time in which a user is controlling the cursor and when a user is not controlling the cursor. This means that the circuit is able to identify a period when the cursor is in motion and when the cursor is not in motion.); and

a calibrating module for calibrating an input parameter signal by detecting a hands-off period using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period (Column 3, line 64 to column 4, line 10, column 6, line 64 to column 7, line 2 explain that during a period of time in which a user is not touching the joystick, i.e. the cursor is not in motion, that the signal is calibrated such that the signals received are equivalent to zero force, i.e. no cursor movement. It is also explained that when it is determined that a user's hand is detected, i.e. the cursor is in motion, that the bias force information and the sensed force values are used together to control the movement of the cursor on the display. In other words, when the joystick is not being used, the signals are calibrated to define zero force, however, when the joystick is in use, the signals are calibrated using the measured signal and the previously known bias force information, thus the two tests are different from each other. Also, the hands-off period is detected using the two different tests, because using the first test when the cursor is in motion means that the hand is on the joystick, and thus it is not detected that hands are off, but while when the cursor is not in motion it is detected that a user's hand is not on the joystick and thus the hands-off period is detected using each of the two tests.).

Regarding claim 2, Engle et al. disclose the controller according to claim 1, wherein said identifying module inputs said input parameter signal from a force sensor (Column 3, line 64 to column 4, line 10 explain that the force sensing elements are measured to acquire the input signal.), and wherein said calibrating module outputs a

calibrated input parameter signal to an output module (Column 6, line 64 to column 7, line 2 explain that the processor calibrates the received force signal, where the calibrated signal is what will be output to define cursor movement.).

Regarding claim 3, Engle et al. disclose the controller according to claim 2, wherein said input parameter signal comprises an input parameter signal detected during a period when a mouse is untouched by a user (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used, that a signal level is detected and bias force information is generated from the measured signals. See also column 6, line 64 to column 7, line 2.).

Regarding claim 4, Engle et al. disclose the controller according to claim 2, wherein said output module outputs a current movement signal based on said calibrated input parameter signal (Column 6, line 64 to column 7, line 2 explain that the processor calibrates the received force signal, where the calibrated signal is what will be output to define cursor movement.), and a transfer function for generating said cursor movement signal comprises a dead band within which said cursor movement signal causes no cursor movement for a non-zero input parameter signal (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used, that a signal level is detected, which means that the input signal is non-zero , however, no cursor movement will occur.).

Regarding claim 5, Engle et al. disclose the controller according to claim 1, wherein said calibrating module calibrates said input parameter signal during a hands-off period (Column 3, line 64 to column 4, line 3 explains that when the joystick is not being used, that a signal level is detected and bias force information is generated from the measured signals. See also column 6, line 64 to column 7, line 2.).

Regarding claim 6, Engle et al. disclose the controller according to claim 1.

Engle et al. also disclose wherein said first and second hands-off tests are used by said calibrating module to determine a hands-off period during which a device for controlling said cursor is not being touched by a user (As explained in the rejection of claim 1, the second test is used during the second period which is when the cursor is not in motion, which is when a user is not touching the device.), and

wherein said calibrating module calibrates a significant input parameter signal by identifying an input parameter signal detected during said hands-off period as having a zero value, relative to which said significant input parameter signal is measured (As explained in the rejection of claim 1, when a joystick is not being used, i.e. a hand is not touching the joystick, a signal level is measured and set to a zero level.).

Regarding claim 7, Engle et al. disclose the controller according to claim 1, wherein said input parameter signal is calibrated to inhibit a cursor drift (Abstract).

Regarding claim 10, this claim is rejected under the same rationale as claims 1 and 2.

Regarding claim 11, Engle et al. disclose the cursor control system according to claim 10, further comprising:

an output module which receives a calibrated input parameter signal from said calibrating module and outputs a cursor movement signal based on said calibrated input parameter signal (Column 1, lines 14-22, column 6, line 64 to column 7, line 2 and column 7, lines 36-38 explain that the calibrated signal is provided to a display as pointing data for the input device, meaning that the signal must be output to provide the coordinate information and thus there inherently will be an output module able to output the data.).

Regarding claim 12, Engle et al. disclose the cursor control system according to claim 10, wherein said force sensor comprises a pointing device which is integrally-formed in a keyboard assembly (Figures 5A and 5B).

Regarding claim 13, this claim is rejected under the same rationale as claim 5.

Regarding claim 14, this claim is rejected under the same rationale as claim 9.

Regarding claim 15, this claim is rejected under the same rationale as claim 9.

Regarding claim 16, this claim is rejected under the same rationale as claim 12.

Regarding claim 17, please refer to the rejection of claim 16, and furthermore Engle et al. also disclose a display device for displaying a cursor controlled by said cursor control system (Column 1, lines 14-22).

Regarding claim 18, this claim is rejected under the same rationale as claim 1.

Regarding claim 19, this claim is rejected under the same rationale as claims 1 and 6.

Regarding claim 20, this claim is rejected under the same rationale as claim 1.

Regarding claim 21, Engle et al. disclose the controller according to claim 1, wherein said controller is included in a pointing stick system, and said input parameter signal measures a force applied to a point stick in said pointing system (Please refer to the rejection of claim 1, and Figures 5A and 5B.).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 8-9 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. (US 5,541,622) in view of AAPA (Page 1, line 13 to page 3, line 13 of the specification.).

Regarding claim 8, Engle et al. disclose the controller according to claim 1.

Engle et al. fail to teach wherein said second hands-off test is less stringent than said first hands-off test.

AAPA discloses of two different hands-off tests, one of which being less stringent that the other (Page 2, line 20 to page 3, line 8 of the specification states that when a

cursor is in motion a more stringent test is best to be used and that when a cursor is not is motion that a less stringent test is best to be used.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by Engle et al. have the testing times taught by the tests of the AAPA in order to allow for the correct cursor position data to be detected.

Regarding claim 9, Engle et al. disclose the controller according to claim 1.

Engle et al. fail to teach wherein said second hands-off test is less stringent than said first hands-off test.

AAPA discloses of two different hands-off tests, one of which being less stringent that the other (Page 2, line 20 to page 3, line 8 of the specification states that when a cursor is in motion a more stringent test is best to be used and that when a cursor is not is motion that a less stringent test is best to be used.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by Engle et al. have the testing times taught by the tests of the AAPA in order to allow for the correct cursor position data to be detected.

Engle et al. and AAPA fail to explicitly teach wherein said first hands-off test comprises a duration of at least about 5 seconds, and said second hands-off test comprises no more than about 0.53 seconds, however, AAPA does disclose of the tests being 2.88 seconds and .53 seconds.

Therefore it would have been an obvious design choice to "one of ordinary skill" in the art at the time the invention was made to make the test lengths taught by Engle et al. and AAPA 5 seconds and .53 seconds in order to allow for the proper detection of the signals to take place.

Regarding claim 22, Engle et al. disclose the controller according to claim 1.

Engle et al. fail to teach wherein said calibrating said input parameter signal comprises sampling said input parameter signal using a first sampling time during said first period and a second sampling time different than said first sampling time during said second period.

AAPA discloses of two different hands-off tests, wherein calibrating an input parameter signal comprises sampling said input parameter signal using a first sampling time during a first period and a second sampling time different than said first sampling time during a second period (Page 2, line 20 to page 3, line 8 of the specification states that when a cursor is in motion a more stringent test is best to be used and that when a cursor is not is motion that a less stringent test is best to be used.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by Engle et al. have the testing times taught by the tests of the AAPA in order to allow for power savings to be realized, since when the joystick is not being touched the cursor is not to be used and therefore the input signal would not need to be updated as often.

Regarding claim 23, Engle et al. disclose the controller according to claim 1.

Engle et al. fails to teach wherein the first hands-off test comprises a duration that is longer than a duration of said second hands-off test.

AAPA discloses of two different hands-off tests, wherein one test comprises a duration that is longer than a duration of a second test (Page 2, line 20 to page 3, line 8 of the specification states that when using two different test, one test the testing time is longer than in the other.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the tests taught by Engle et al. have different testing times taught by the tests of the AAPA in order to allow for power savings to be realized, since when the joystick is not being touched the cursor is not to be used and therefore the input signal would not need to be updated as often.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

10 September 2007